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ABSTRACT

Presented is the research and evaluation report of the Milton Avenue (Atlanta, Georgia) Handicapped Children's Early Education Program (HCEEP), designed to provide services in identification, prescriptive diagnosis, intervention with children and parents, and assistance in placement. The development of the program is traced over a 3-year period. Program evaluation data is cited regarding number served, children's progress, length of time in program, attendance, gains scored, gaps narrowed, and followup. The program's budget is briefly discussed; and recommendations regarding intake expense, transportation difficulties, infants' attendance, and staffing patterns are offered. (SBH)

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RESEARCH AND EVALUATION REPORT

Vol. X, No. 13 March, 1977

A MODEL FOR EDUCATION OF PRESCHOOL HANDICAPPED CHILDREN: THE MILTON AVENUE PROGRAM

1973-1976

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INTRODUCTION

Just as the school population may be divided into many levels of learning aptitudes, so also may children in the preschool-age groups be identified. It is customary, however, to think of these children in terms of developmental levels. Young children who manifest developmental delay eventually tend to become classified in the classroom as slow learners, educable retarded, trainable retarded, emotionally disturbed, or to exhibit other kinds of learning disabilities. Widespread research has indicated that early intervention can help greatly in alleviating or removing many of these handicapping conditions which are so disastrous for the school-age child. In many cases when the handicap is not severe and is identified early enough, it can be completely overcome. The child may then go into the regular school program and function successfully.

There are also situations in which parents, particularly the mothers, may be functioning at a very low mental capacity and may lack the necessary child-rearing skills to provide an adequate home learning environment for their children, whose development is consequently slowed considerably. Child neglect, whether intentional or merely as a result of ignorance with regard to appropriate nutrition, health maintenance, behavior management, and children's needs for diversified learning tools and opportunities, can compound the difficulties which accompany the growing child and can slow even further a low rate of development.

During the period October 1, 1973 to June 30, 1976, one of the programs in the Atlanta Public Schools attacked these problems of the preschool, mildly-retarded child and of children of high risk mothers who themselves are mentally retarded, or where physical or mental health conditions warrant intervention at an early age. This was the Milton Avenue Handicapped Children's Early Education Program (HCEEP) housed at the Milton Avenue TMR Center in Area I and funded by the Atlanta Public Schools and the Bureau of Education of the Handicapped in the U. S. Office of Education of the Department of Health, Education, and Welfare. Children from 0 to 4 years were served.

The timeliness of this project is emphasized by recent legislation by the State of Georgia in its Adequate Program for Education in Georgia Act (APEG) which states that ". . . three-and four-year-old children who are either physically, mentally, or emotionally handicapped or perceptually or linguistically deficient shall also be eligible for special education services." Furthermore, P. L. 94-142 has legislated that these services are to be provided by July 1, 1980. The Milton Avenue HCEEP experience in (1) identification, (2) prescriptive diagnosis, (3) services to children and parents, and (4) assistance in placement will be valuable in future programs as this law is implemented.

Although it was necessary to present a continuation proposal each year, the program was planned to cover a three-year period during which a demonstration project would be developed, available for replication in whole or in part. A fourth year of funding for the outreach part of the program would also be possible if a local agency would finance the demonstration project itself. Economic stringency caused contraction of educational services by potential funding sources, including the Atlanta School System, and the outreach program has not come to fruition. The program itself is, however, a completed package, as originally planned.

DEVELOPMENT OF THE PROGRAM

First Year: October 1, 1973 -- September 30, 1974

During the early months of the program, two portable classrooms were made ready for instruction purposes; the staff was acquired and given preservice training by the director and the consultant from Georgia State University; and curriculum planning as well as contacts with day care centers, health centers, and other agencies were established.

Initially, 30 children from the former Model Cities area were to be identified as evidencing developmental delay. They would receive intensive and highly individualized treatment with the objective of either returning them to a day care center or entering them into one if they had not had this prior experience. Some children would move on into a regular kindergarten or into a special kindergarten center established at selected schools for

serving children with mild handicaps. In all cases, the staff would follow up and provide assistance to the teachers of the children who left the program. It was also anticipated that most children in the program would spend part of the day in a day care center while in the program.

During this first year it was also possible to institute a parents' component and a parent trainer was added to the program. In this part of the program, parenting competencies were to be developed with special reference to nutrition, health maintenance, and behavior management as well as information on child development, including the promotion of language in the infant and young child. In the pursuit of these goals, the parent trainer held ten general meetings and three for fathers alone during the first year. Parents whose children were on the waiting list would be invited to attend the meetings or to confer with the parent trainer. In a few cases, parents whose children were not accepted into the program were also referred to this part of the program.

Since 1973-74 was a start-up period, it was possible to try out several procedures on an experimental basis. To name the principal ones:

1. A psychologist was used on a consulting basis only. This did not appear to provide adequately for the needs of the program, and it was determined to add a full-time psychologist-coordinator during the next year.

2. Neither the Portage curriculum nor the Learning Accomplishment Profile (LAP) was deemed sufficient in task analysis for acquiring the needed skills. The teachers felt that they would need to evolve teaching procedures to accompany the curriculum. This was set as an objective for the coming year with suggestions for additional detail being recorded by each teacher. Staff in-service continued throughout the year also.

3. Parent training became a defined component of the program. The parent trainer planned to develop a manual as an end product of experience with the parents.

4. The nurse was certified to give physicals and administered the Denver Developmental Test which was a valuable contribution to diagnosis of delay.

5. Language and video taping were believed to be useful adjuncts to the program.

6. Outside agency contacts contributed greatly to the program. These came from Emory University, Georgia State University, Atlanta Area Technical School's Child Development Center, Project Rescue, and Grady Hospital.

7. All children were staffed prior to acceptance into the program. Results of the psychological tests and LAP, medical history, and personal interviews were discussed by the entire staff. The decision to enroll the child or to refer him elsewhere was then made. This procedure was adopted early in the program and continued throughout the remaining years.

These then were the areas of most significant development during the first year of development. In the same period, 68 children were screened; 27 of whom were enrolled for all or part of the time; and 7 others received services from the parent trainer. Thirteen children who left the program were appropriately placed in other programs, with 5 of these going into regular day care or kindergarten. And also, during this first year, the staff presented their program or provided training for one Head Start program, two day care centers, three Title IV-A workshops, and a number of local agencies. The program personnel were also happy to have 16 interns working in the program over the year since they provided expertise in skill areas as they gained practice with children.

Second Year: October 1, 1974 -- June 30, 1975

The second funding period covered nine months only in order to begin the next year on July 1. During this time, two more teachers and two aides were added to the program making it possible to schedule four classes a day. A new center had been planned for the A. D. Williams School but this was not feasible. All classes were held at Milton Avenue until early April when two classes were moved to Fountain School. In this way, afternoon classes which presented difficulties for both staff and children were eliminated. It also became possible then to have a summer session for the children at Fountain when Milton Avenue was closed for the summer. Furthermore, an

intern from Atlanta Manpower joined the staff in January to work primarily on the nutritional component of the program. She also assisted the parent trainer in making home visits and in presenting workshops.

During the second year the importance of working with the parents as well as with the children in an inner-city program such as this one was established. The initial home visit during which needs were assessed pinpointed the particular areas of concern. Weekly meetings were planned around problems common to all. Small group workshops on specific subjects were also arranged. The home visitors also acted as liaisons between parents and teachers carrying suggestions from the teachers on how the classroom objectives might be continued in the home. Toward the end of the school year, parents also spent part of the weekly meeting visiting the classroom of their child, observing and conferring with the teacher. Every member of the staff was involved in the effort to enlist the parents' support and active participation in eliminating their children's handicaps and in providing an adequate home environment where good health, hygiene and nutrition habits might prevail as well as enlightenment in the needs and behavior management of the growing child.

Parent programs and workshops were held weekly. During these sessions demonstrations were given on the basic food groups, preparation of simple but well balanced meals, preparation of infants' formulas bathing and dressing procedures for children, to name a few. Parents observed children at several ages and spent time in the classroom with their children. All members of the staff contributed their expertise to the programs. Twenty-two parents attended 30 weekly meetings and 13 participated in 15 workshops. Although attendance at any one meeting was small only two of the parents were unable to get to at least one of these. Because of the few contacts with most parents through these center activities, the importance of the home visit was paramount in maintaining a close working relationship with each family.

During this period as a whole 32 children were enrolled at one time with 17 of them spending at least 6 months in the program. Twenty children left the program either during or at the end of the year; 18 of these were placed in another program and two left the area. Of the former, seven children went to a regular day care center and four began kindergarten. The remaining seven were placed in classes offering a form of special education.

In addition to the intensive daily individualized work with the children by the teachers the project nurse provided needed health care, such as first aid and regular physicals, and referred children in the program to health centers and dental clinics as deemed necessary. Individual conferences with parents were also an important facet of the nurse's contribution to the children in the program.

One outcome of the relationship established between parent trainers and parent was less desirable in that it interfered with the efficiency of the educational aspects of the program. Many parents tended to depend on the parent trainer for emotional and material support. While these needs were real and took precedence over the objectives aimed at inculcating parenting skills, it was necessary to direct parents to the appropriate agency which could fill these requirements rather than to attempt the role of social worker. A secondary and time-consuming goal during this second year, therefore, was the promotion of independence and survival skills in the parent.

The available assessment instruments, while helpful in determining initial needs, were not adequate in measuring the effects of the intervention program on the parent. A start was made in the final months toward developing such an instrument but time constraints deterred much progress in this direction. Priority had to be given to the ongoing program with its many facets. Examples of the varied aspects of the task are to be found in scheduling of transportation of children, locating "missing" children and parents, setting up appointments for intake and home visits, placing children who are ready for a regular program, following up on placements, helping with referrals to other agencies, and disseminating the program for possible replication. A psychologist, who served as coordinator, was added to the staff at the beginning of the year and performed many of these duties and assisted in others. The position was vacated during the year and no replacement found thus shifting more of these duties to other personnel than had been planned.

A major effort was made during this same period to interest funding agencies in increasing the number of children served through broadening the age and the degree of handicap to be included. The administrative staff of Atlanta Public Schools supported this endeavor. No single agency or

multiservice group had resources available to finance such an extensive project at that time, however. The Milton Avenue Program itself, however, continued to attract visitors and inquiries from a wide area.

Third Year: July 1, 1975 -- June 30, 1976

During the third year, the staff finished the compilation of teaching procedures to be used in conjunction with the LAP curriculum units. A guide for a parent program among inner-city parents including an assessment of their competencies was also completed. Finally, a cookbook covering basic nutritional needs and inexpensive but nourishing meals was produced. These publications, plus a videotape for presenting the programs in a training session, will serve as a solid base for instituting a similar program.

While the activities and philosophy of the final year changed little from those of previous years, there were a few differences in the actual operation of the program. The program was housed once again at only the one site, although all classes were held during the morning. Three of the teachers and two of the assistant teachers were new to the program as were the parent trainer and the assistant parent trainer. All had previous teaching experience that not only well qualified them for their new positions, but also enabled them to contribute to the program further. The program also returned to the use of a consultant psychologist rather than a full-time staff member. The psychologist spent more time with both parents and children than formerly, however, when more emphasis had been placed on testing alone.

All in all the program was refined and became a well-ordered operation during this final year with referrals, diagnosis, treatment, health care, transportation to and from the center and placement presenting considerably fewer problems than in previous years. The major areas for concern which remained related to the parents' cooperation in keeping their children's attendance up and in participating in the program themselves.

Although no objective measure of change in attitude by parents was obtained during this period, the 15 parents attending the final weekly meeting at the center were asked to fill out a questionnaire on the various aspects of the program. They were uniformly positive toward the program and the staff. They were also able to give concrete examples of how the program had helped them. The main thrust in any future program of this nature would have to be aimed at soliciting broader-based participation and cooperation by parents in both home and center activities.

According to the timetable, with the demonstration program well in hand, a large proportion of the third year was intended to be spent on disseminating the program for replication and/or outreach. While an outreach proposal for serving the Title XX day care centers throughout Atlanta was submitted, it was nonetheless impossible to secure the necessary funding for the remainder of the program. In spite of an exhaustive search, the paucity of "new" funds doomed the project. Yet no one has denied the net economy of attacking the problem of retardation at an early age and forestalling more serious future problems.

EVALUATION

Number Served

Over the length of the program more than 200 children were referred to the Milton Avenue HCEEP program. While only about two-fifths of these children entered the program and only one-third remained in the program for more than three months, the remainder did receive one or more services from the program in the screening process. In some cases, where the child obviously did not qualify for the program, referrals were immediately made to other agencies. Otherwise, a diagnosis was completed by means of psychological and physical examinations, home visits, and interviews with the staff at the center. Reasons why children who were accepted for the program did not enter or were removed by illness of either parent or child were lack of interest by parent, moving from the area served, and difficulty over transportation. Any children not accepted but eligible were either put on a waiting list or referred elsewhere. As noted earlier, some parents were enrolled in the program, prior to their children, in an effort to render the maximum assistance possible.

Children's Progress

While no formal assessment of the progress made by the parents during the time their children were in the program was possible, the children themselves received frequent evaluations. The LAP was administered every

three months; language samples were taped, and the children were staffed at least every three months. These frequent assessments not only provided benchmark data on each child but enabled the staff to individualize the program of each child more effectively and to establish, along with observational evidence, when a child was ready to leave the program.

Length of Time in Program

During the three years of the program, a total of 61 children were enrolled who remained in it for at least three months. Table 1 presents a distribution of the length of stay in the program for each age group and includes children who might have remained had the program continued. The average duration of stay was 7 months, and 54 per cent of the children were enrolled for over 6 months, including summers. Children left the program to enter kindergarten or return to day care, to receive more specialized care or to move from the serving area. In a few cases parents withdrew their children because of ill health or lack of parental interest and some children were "lost" during the summer interval between school sessions.

The short time that most children were in the program must be interpreted as a deterrent not only to the amount of improvement possible but also to the maintenance of the gains scored while in the program. This would be particularly true of the children who did not reach school age before withdrawing. They undoubtedly returned to the same environment which had not been able to help them in the past.

Current legislation, however, is promising that within a few years the situation will be alleviated and handicapped children, aged 3 to 5 years, will again be served over a broader geographic area.

Attendance

Another deterrent to progress for children enrolled in the program was the poor attendance by some of the children. This was particularly true for the very young children two and under. There was an improvement in attendance during the final year, and the importance of attendance was continually stressed by the staff in meetings with parents.

Gains Scored

In spite of the difficulties encountered, the children who remained in the program were able to progress at a more rapid rate than if the program had not existed. Table 2 presents information on the number of children and the areas in which developmental delays were defined as they entered the program and the status as they left the program. It is readily apparent that marked improvement occurred in all areas. Nearly three-fourths of the children had slow gross motor development; this was reduced to about one-fourth. Nearly all children showed delayed intellectual and language functioning. This was cut to one-half in the cognitive area and to three-fifths in language. The youngest children showed the least improvement according to the best measurement available.

It is appropriate to point out, however, that all measurements of preschool children, particularly infants, are far from exact and are subject to considerably more error than are those of older children. In addition to this, the LAP does not lend itself to precise measurement but, allowing for this known variability in young children, tends to use ranges of 6 to 12 months for each of the skills measured. In order to present more concise results, the midpoint of these ranges was used in analyzing the data. The general conclusion to be drawn from these statistical drawbacks is that trends only can be noted and no pinpointing of data should be attempted. The statistical results do, however, agree with observations made and anecdotal reports presented at staffings. From this vantage point, then, the findings can be considered as rough but reliable indicators of the positive gains scored through intervention. It is also important to note that at no time were any statistical or psychological data alone used to evaluate the individual child. An in-depth staffing, during which teacher, nurse, psychologist, and parent trainer presented their own observations, was held for each child.

Another comment is in order concerning the lumping together of all the children for purposes of evaluation, even within age groups. The children who were in the program had many commonalities, but they had many individual differences. In other words, the kinds of handicaps exhibited ranged from vision and hearing impairment to hyperactivity and its opposite, withdrawal behavior. The degree of delay in each of the areas covered by the LAP would show considerable variation among the children. A case study of each child would be more appropriate than a review of aggregates in this particular kind of population sample. For this reason the data on each child on which the summary tables are based are presented in Table 3. The reader is invited to peruse them to determine for himself the wide differences among the children.

TABLE 1

LENGTH OF INTERVENTION FOR CHILDREN IN MILTON AVENUE PROGRAM

Length of Intervention	Total		Entry Age (Months)				
	No.	Per Cent	0-11	12-23	24-35	36-47	48-62
2-6 Months	28	46	1	3	10	6	8
7-12 Months	16	26	2	4	1	8	1
13-18 Months	12	20	3	2	3	1	3
18 Months and Over	5	8	--	--	5	--	--
Total	61		6	9	19	15	12
Per Cent of Total			10	15	30	25	20

TABLE 2

DEVELOPMENTAL DELAYS BEFORE AND AFTER INTERVENTION OF CHILDREN IN MILTON AVENUE PROGRAM (NUMBER)

Age Group	All Children	Delay Present by Skill Area													
		Gross Motor		Fine Motor		Writing[a]		Social		Self-Help		Cognitive		Language	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
0-11 Months	6	5	4	4	2	--	--	5	4	5	5	6	5	5	5
12-23 Months	9	6	2	4	1	--	--	4	1	5	1	7	5	9	7
24-35 Months	19	15	4	13	5	14	8	11	4	11	6	16	6	17	8
36-47 Months	15	13	1	9	1	14	8	11	2	10	4	13	7	15	10
48-62 Months	12	6	3	9	3	12	10	9	4	11	3	11	4	12	11
Total	61	45	14	39	12	40	26	40	15	42	19	53	27	58	41
Per Cent of Total		73	23	63	19	83	57	65	24	48	31	81	44	94	67

a Based on 44 children
Source: LAP

TABLE 3

INDIVIDUAL PROFILES OF CHILDREN IN MILTON AVENUE INTERVENTION PROGRAM

Months of Intervention	Ent. Age	Skill Area: Gross Motor — Dev. Lag Entry (mos.)	Rate of Gain (mos.) (b)	Dev. Lag After Inter. (mos.) (a)	Fine Motor — Dev. Lag Entry (mos.)	Rate of Gain (mos.) (b)	Dev. Lag After Inter. (mos.) (a)	Writing — Dev. Lag Entry (mos.)	Rate of Gain (mos.) (b)	Dev. Lag After Inter. (mos.) (a)	Social — Dev. Lag Entry (mos.)	Rate of Gain (mos.) (b)	Dev. Lag After Inter. (mos.) (a)	Self-Help — Dev. Lag Entry (mos.)	Rate of Gain (mos.) (b)	Dev. Lag After Inter. (mos.) (a)	Cognitive — Dev. Lag Entry (mos.)	Rate of Gain (mos.) (b)	Dev. Lag After Inter. (mos.) (a)	Language — Dev. Lag Entry (mos.)	Rate of Gain (mos.) (b)	Dev. Lag After Inter. (mos.) (a)
Age Group: 0-11 Months																						
17	10	2	0.9	3	0	0.9	0	--	--	--	0	0.0	3	0	0.3	6	1	0.3	9	1	0.0	12
16	6	0	1.1	0	0	1.6	0	--	--	--	1	2.3	0*	1	1.4	0*	2	1.3	0*	0	1.0	0
14	5	3	1.2	0*	5	1.4	0*	--	--	--	2	1.1	1	4	0.8	4	5	1.3	1	5	0.9	7
7	8	4	1.1	3	3	1.4	0*	--	--	--	5	2.1	0*	2	0.9	3	3	0.9	4	2	0.4	6
7	8	5	0.4	4	7	1.4	4	--	--	--	5	1.3	3	4	0.7	6	4	0.7	6	4	0.6	9
3	8	3	1.1	2	4	1.2	2	--	--	--	5	1.3	2	3	1.1	2	5	1.0	5	5	0.7	8
Age Group: 12-23 Months																						
19	13	3	1.6	0*	0	1.8	0	0	0.5	4	0	1.3	0	3	1.6	0*	3	1.6	0*	6	1.7	0*
14	18	6	2.1	0*	0	1.5	0	0	0.4	2	15	3.2	0*	1	12	0*	6	1.1	5	7	1.4	5
12	16	9	1.3	0*	10	1.3	0*	0	1.0	0	11	2.3	0*	--	2.5	0	10	1.1	0	7	.9	1
10	23	0	1.8	0	0	2.1	0	2	1.2	0	0	1.8	0	0	2.2	0	0	1.3	0	1	2.0	0*
8	18	0	0.4	2	0	1.1	0	0	0	2	0	0.3	0	0	1.1	0	6	1.1	5	6	1.4	3
7	17	4	1.6	0*	0	0.9	0	6	2.7	0*	0	1.3	0	0	1.3	0	0	1.3	0	5	1.6	1
5	17	2	1.2	0*	5	1.8	0*	--	--	--	5	1.8	0*	5	1.8	0*	5	1.2	3	6	0.8	6
4	23	0	0	0	2	1.5	0*	--	--	--	0	1.5	0	9	4.0	0*	11	1.5	9	14	1.5	12
4	16	8	1.3	7	4	1.0	9	--	--	--	4	1.5	2	4	0	8	7	0	11	16	1.5	14
Age Group: 24-35 Months																						
39	31	0	0.8	0	4	1.5	0*	0	1.3	0	0	1.1	0	0	1.0	0	4	1.5	0*	2	1.4	0*
29	32	21	1.9	0*	18	1.8	0*	20	2.1	0*	28	2.2	0*	20	1.9	0*	14	1.9	0*	3	2.2	12
29	27	6	1.6	0*	6	1.6	0*	3	1.4	0*	0	1.4	0	0	1.6	0	15	1.8	0*	9	1.2	0*
28	34	0	1.3	0	13	1.9	0*	0	1.5	0	0	0.8	0	0	1.3	0	7	1.9	0*	5	1.5	0*
20	28	4	2.1	0*	7	1.7	0*	15	2.1	0*	7	2.3	0*	10	2.4	0*	6	2.2	0	14	1.9	6
17	26	5	1.9	0*	0	1.1	0	5	1.6	0*	0	1.3	0	8	2.1	0*	8	2.1	0*	8	2.1	0*
16	26	5	2.8	0*	0	1.7	0	5	1.7	0*	0	2.1	0	0	1.3	0	8	2.3	0*	9	2.3	0*
15	30	8	1.3	3	0	0.6	3	9	1.0	9	0	0.0	3	3	1.0	3	12	1.6	3	11	1.3	7
12	32	20	4.5	0*	11	3.8	0*	8	2.5	0*	14	3.0	0	5	3.3	0*	8	3.5	0*	8	3.5	0*
6	31	7	3.0	0*	4	2.5	0*	1	1.0	1	0	1.5	0	0	1.5	0	4	2.5	0*	4	2.5	0*
6	26	5	3.5	0*	6	--	--	5	0.5	8	12	4.7	0*	8	1.0	8	14	1.5	11	20	1.5	17
5	24	13	0.8	14	9	1.2	8	--	--	--	15	3.6	2	9	1.2	8	16	2.6	8	12	1.2	11
4	34	0	0.0	0	0	3.0	0	4	1.3	3	1	8.2	0*	0	0.0	0	0	0	0	0	0	0
4	31	7	4.5	0*	10	5.3	0	18	4.3	5	1	3.0	0*	0	2.3	0	0	2.0	0	0	2.3	0
4	28	7	0	7	10	0	10	--	--	--	25	1.3	24	7	0	7	20	.3	23	22	0	23
4	25	1	4.5	0*	0	2.3	0	0	0.0	0	0	0.0	0	0	1.3	0	0	1.5	0	2	1.8	0*
3	35	0	0.0	0	0	0.0	0	2	0.0	8	8	5.0	0*	8	1.0	8	11	6.0	0*	11	6.0	0*
3	33	12	0.0	15	13	0.0	16	20	0.0	23	6	1.0	6	2	0.0	24	9	3.0	3	15	1.3	14
3	29	8	7.0	0*	2	0.0	8	8	1.0	8	1	1.0	0*	11	5.3	0*	11	3.0	9	11	2.3	10
Age Group: 36-47 Months																						
18	37	0	1.5	0	0	0.7	0	1	1.0	1	0	1.4	0	0	1.5	0	0	0.7	0	4	1.2	1
12	45	5	2.2	0*	0	1.3	0	3	2.0	0*	9	2.6	0*	3	2.5	0*	3	1.9	0*	18	3.3	0*
9	47	5	2.7	0*	5	2.7	0	14	1.0	16	0	1.3	0	0	0.7	0	19	2.3	2	20	3.0	2
9	45	3	2.9	0*	0	2.4	0	21	3.3	0*	12	3.7	0*	3	1.3	0*	15	2.7	0*	18	3.3	0*
9	45	3	2.7	0*	3	1.3	0*	21	1.3	18	24	3.5	0*	3	1.3	0*	28	3.8	3	22	3.4	05
8	47	5	3.0	0*	0	1.5	0	15	2.0	7	0	0.8	0	0	0.5	0	5	3.0	0*	14	2.6	11
8	43	24	5.6	0*	23	4.1	0*	32	5.9	0*	27	4.3	0*	15	4.5	0*	39	4.9	0*	33	3.0	17
8	44	2	3.0	0*	0	1.5	0	8	2.3	0*	11	4.3	0*	0	2.3	0	2	3.0	0*	22	3.3	9
7	51	+20	0.4	26	30	4.4	6	--	--	--	23	3.4	6	26	3.4	6	28	--	--	--	--	--
6	46	25	3.5	0*	25	3.5	0*	25	3.5	0*	25	3.5	0*	29	4.2	10	31	4.5	10	31	1.5	25
6	43	1	4.0	0*	10	3.5	0*	19	2.5	0*	13	5.5	0*	13	4.0	0*	19	5.0	0*	19	5.0	0*
4	43	0	5.0	0	0	0.9	0	13	0.0	19	3	3.0	0*	0	2.3	0	0	0.0	0	3	3.0	0*
3	45	3	4.0	0*	12	3.7	0*	12	4.0	6	12	5.0	0*	3	1.0	3	21	4.3	14	21	3.7	15
3	45	11	6.7	0*	3	4.0	0*	12	5.0	6	0	9.6	0	3	4.0	0*	3	0.5	6	9	2.0	6
3	54	2	3.0	0*	17	9.0	0*	23	3.0	17	11	3.0	3	16	8.7	7	33	5.3	29	22	2.7	17
Age Group: 48-60 Months																						
17	58	27	2.2	0*	0	0.7	0	18	0.6	29	6	1.3	0*	6	1.4	0*	6	1.4	0*	29	1.8	11
13	57	13	1.4	4	13	0.8	16	23	0.6	40	22	2.3	3	13	1.6	4	10	2.2	6	28	2.6	4
15	48	2	0.0	5	0	0.0	0	12	1.3	9	5	1.2*	0	6	1.2	0	3	1.5	0*	21	1.8	3
8	51	5	0.6	9	0	2.0	0	21	3.3	0*	18	4.3	0*	22	3.3	0*	9	2.3	0*	18	4.1	0*
6	54	33	3.3	18	17	2.0	6	18	0.0	24	0	0.0	6	5	2.7	0*	21	3.5	6	27	2.3	18
6	53	20	2.0	0	0	3.0	0*	7	1.3	5	20	5.5	0*	13	4.3	0*	20	3.5	0*	23	4.0	3
6	51	0	0.0	6	0	4.0	0*	27	6.0	0*	18	5.7	0*	21	7.0	0*	33	5.0	0*	30	3.5	8
6	55	9	4.0	0*	35	7.5	0*	18	5.5	6	33	8.2	0*	15	6.5	0*	33	3.5	0*	27	3.5	13
6	55	5	2.0	0	8	4.0	0*	20	3.0	8	8	2.5	2	5	3.3	0*	0	2.0	0	8	1.0	8
5	47	0	0.0	1	8	2.4	1	16	4.0	1	9	0.0	6	8	2.4	1	8	2.5	3	25	2.0	13
4	48	6	6.0	0*	15	5.1	0*	18	4.5	4	6	1.5	4	18	3.0	10	23	4.8	7	30	3.8	12
3	50	8	5.0	0*	8	4.0	0*	16	4.0	5	8	3.0	0*	0	4.0	6*	23	3.0	0*	26	4.0	11

(a) In cases where child may have exceeded developmental norms in other areas of testing, the most recent age is used as Dev. Lag After Inter. The rate of gain is based on the total gain however.

(b) Rate of gain represents months of gain for every month of intervention.

* The scores of which these Lags were calculated did not come from the group on which these final norms are based. Effect

With these limiting conditions stated, it is possible to proceed with an overall review of the gains registered by the children in the program. These appear in Table 4. A normal rate of gain for a child who had developed at the normal rate would be one month. Nearly all the children in this program were not developing at the normal rate in any of the skills. Table 2 indicated that as many as two-thirds were behind in the fine motor, social, and self-help skills; three-fourths in gross motor skills, and nine-tenths or more in the language, cognitive, and writing areas. During their stay in the program average gains of two months or close to that were reported in all areas. There was, in fact, only one instance where development was not brought up to the normal rate, the language area for the youngest children. The rate here was 7 months.

Looking at differences in the several age groups indicates that the greatest gains were achieved by children who were three years old or older on entering the program. This may well be a statistical artifact, however. The older children averaged only 8 months of intervention while the 2 to 3 years age group averaged 12 months. It is possible that after the initial impact of remedial therapy the rate of gain will level off. Secondly, the age groups are not matched for severity of handicap. It might be expected that milder handicaps would be less evident in younger children. In this case the children with the most severe handicapping conditions would be the younger ones selected as needing the program. Finally, younger children because of their age have less of a backlog built up in months of total delay and development may appear slower when compared with other children. It is important, therefore, not to infer from these data that older children will gain most from such a program.

The Gap Narrowed

Finally, the results of the treatment the children received while in the program can best be seen by looking at the status of children after intervention. Table 2 demonstrated how many children were brought up to normal functioning for their age group. From Table 3 the remaining deficits for children still lagging can be examined. Only 7 children remained more than six months behind in gross motor skills, six in the fine motor area, and sixteen in writing skills. In social skills one child lagged behind normal. In self-help there were 9, while 10 and 16 still fell more than 6 months behind in cognitive and language skills respectively.

There is, unfortunately, no way to compare these achievements with other programs. The type and severity of the handicapping condition, the age of the child, the length of intervention and attendance patterns are all factors that influence the outcome of any treatment. Even the assessment instrument may affect the results. During the last year of the program, the Alpern and Boll Developmental Profile was used as a comparison instrument on 29 children. The average rate of gain over the school year is presented in Table 5 for both the LAP and the Alpern-Boll. Except for the oldest group the LAP tended to show greater gains.

Correlations between the tests for motor, language and cognitive skills were relatively high but were low for self-help and social skills. The motor skills correlated at +.63 with a level of significance of .005. The rate for language skills was +.41 with L.S. = .03 and for cognitive skills was +.59 with L.S. = .01. The other two rates +.27 for social and +.22 for self-help skills were significant beyond .10. The general conclusions are that in the three areas of high correlation the two tests measure the same, that gains reported by either one would be admissible and that the Alpern Boll test supports the hypothesis that the magnitude of gain was as great over the three years as indicated by the LAP data.

Follow-up

There were informal follow-ups of the children who left the program. Very few children were located who had entered the local school system. In general the reports indicated that these children were adjusting well to the regular kindergarten. Some of the younger children entered day care and many moved away and could not be traced. A large number were, unfortunately, back in the home without hope of further help until they would reach school age. It is regrettable that the results of these follow-ups did not yield any data capable of further analysis, which ruled out any plans for a longitudinal study of the effects of the program.

TABLE 4

GAINS OF CHILDREN IN MILTON AVENUE PROGRAM
AVERAGE MONTHS FOR EACH MONTH OF INTERVENTION

		Skill Area						
	No.	Gross Motor	Fine Motor	Writing	Social	Self-Help	Cognitive	Language
0-11 Months	6	1.1	1.3	--	1.4	1.0	1.1	.7
12-23 Months	9	1.3	1.5	--	1.8	1.7	1.3	1.5
24-35 Months	19	1.7	1.6	1.5	1.7	1.4	1.8	1.2
36-47 Months	15	2.9	2.3	2.3	3.0	2.4	2.7	2.8
48-62 Months	12	1.8	2.1	2.3	2.8	3.0	3.3	2.6
All	61	1.9	1.8	1.9	2.1	1.8	2.1	1.9

TABLE 5

COMPARISON OF TEST RESULTS, 1975-76
AVERAGE GAIN PER MONTH OF INTERVENTION

		Skill Areas									
		Motor		Social		Self-Help		Cognitive		Language	
Age Group	N	LAP[(a)]	A-B	LAP	A-B	LAP	A-B	LAP	A-B	LAP	A-B
1 Year	8	1.1	1.1	2.0	1.4	1.8	1.5	1.4	1.1	1.1	1.2
2 Years	7	2.0	1.4	2.1	1.7	1.4	2.1	2.2	1.6	2.2	1.5
3 Years	10	3.2	2.0	3.4	3.0	2.6	2.0	3.3	2.7	2.6	2.5
4 Years	4	.8	1.2	2.3	3.4	1.7	2.4	2.5	3.6	1.8	1.6
Total	29	2.0	1.5	2.6	2.3	2.0	1.9	2.4	2.1	2.0	1.8

LAP — Learning Accomplishment Profile
A-B — Alpern-Boll Developmental Profile
(a) — Gross motor skills only

BUDGET

Over the thirty months the program was in operation costs totaled $329,000; of this, $227,400 was provided as part of the grant while $101,600 came from other sources, such as state supplements to teachers' salaries and participation of other Atlanta Public Schools personnel. These figures exclude allowances for use of Atlanta Public Schools facilities and utilities, except for telephone. Also excluded are volunteer services provided by interns from Georgia State and Atlanta Area Technical School as well as personnel from Atlanta's Manpower organization. The yearly breakdowns are provided in Table 6 and include a percentage distribution of nonpersonnel costs. In looking at the data it must be remembered that the program went through the various stages of model development, demonstration project, and finally outreach. Costs incurred as a result of these shifting emphases cannot be separated from the cost of the program itself. In addition the number of children served at one time each year was increased until it reached forty. An estimate, in 1976 prices, of what such a program would cost to operate is presented in Table 7. This is based on serving forty children, ten children to one teacher and one aide, and takes into account a fairly wide geographic distribution of students as well as the availability of supportive resources and existing facilities such as are to be found in the public school system. To this extent no actual cost analysis was used as its basis but only the conditions under which the program itself was operated.

While such a project would cost about $3,100 per child, the cost of funding it might be divided, in Georgia at least, between State and local funds. About one half of the personnel costs could be met through the State supplements for teachers of special education, known as Section 5 units. The local share would then reduce to less than $2,000 per child.

RECOMMENDATIONS

Out of the experience of three years has evolved a model for preschool children who are mildly or moderately handicapped. This model stresses the various components of a good program: complete diagnosis by competent and trained personnel, prescriptive individualized treatment with a low teacher-pupil ratio, and the necessity for a close relationship with parents in order to provide them with general counseling and support as well as guidance in child rearing, behavior management, and homemaking skills with particular emphasis on nutrition. Although the program was not aimed exclusively at low income inner-city families, its chief direction and experience has been with this particular population. Consequently, any replication of this project could best be applied to the same group. In such case many of the same problems would have to be faced again and, if at all possible, working solutions should be provided at the outset.

Intake Expensive

In the Milton Avenue program many man-hours were devoted to the screening and intake parts of the program. It has been noted that about two-thirds of the applicants were not admitted to the program. In many cases parents did not follow through by meeting appointments set up for them. When a number of these were missed, further effort was considered to be futile. In other instances where referrals were made the nature of the handicap indicated that the program was not suitable. While referrals to other agencies after such a decision were certainly of help to the individuals, time spent on diagnosis and referrals detracted from the main thrust of the program. Then, because of the mobility of the population, children who had been diagnosed as eligible and placed on a waiting list would not be available when a slot became open. It would be desirable to tighten up intake procedures, particularly early screening, and seek out means of concentrating proportionately less effort on this area.

Transportation Difficulties

Transportation, which was provided by the program, created another expensive and time-consuming obstacle to efficient operation. In planning a new program, someone representing the transportation department of the initiating agency should be included at an early stage and have input into the kinds of services needed for transporting children and parents to the selected site. Any centralized service system will, however, have similar problems since the incident rates of retardation do not create a clustering of such cases in a small area.

TABLE 6

MILTON AVENUE PROGRAM BUDGET
(EXPENDITURES GIVEN IN THOUSANDS OF DOLLARS)

	First Year Oct. 1, 1973 -- Sept. 30, 1974			Second Year Oct. 1, 1974 -- June 30, 1975			Third Year July 1, 1975 -- June 30, 1976			Total Oct. 1, 1973 -- June 30, 1976		
	Federal	Other[a]	Total	Federal	Other[a]	Total	Federal	Other[a]	Total	Federal	Other[a]	Total
Personnel Costs	$35.1	$23.0	$58.1	$46.3	$31.0	$ 77.3	$62.6	$43.0	$105.6	$144.0	$ 97.0	$241.0
Other Costs	20.2	.8	21.0	26.1	1.8	27.9	37.1	2.0	39.1	83.4	4.6	88.0
Total	$55.3	$23.8	$79.1	$72.4	$32.3	$105.2	$99.7	$45.0	$144.1	$227.4	$101.6	$329.0

Percentage Distribution of Other Costs

Pupil Transportation	21%	42%	46%
Food Service (a)	9%	13%	15%
Educational Materials	14%	12%	10%
Parent Involvement	6%	5%	3%
Office Supplies and Word and Data Processing	10%	13%	8%
Equipment	35%	8%	--
Other Transportation	5%	7%	14%
Other	--	--	4%

(a) Includes state supplements to teachers' salaries for teachers of special education and 20 per cent participation of principal at Milton Avenue as director. Nonpersonnel costs include allowance under the free lunch program.

TABLE 7

ESTIMATED COSTS FOR REPLICATION
($000, 1976 PRICES, 40 PUPILS,
9-MONTH SCHOOL YEAR)

Personnel	
Director (part-time)	$ 3.0
Teachers (4)	42.0
Aides (4)	23.4
Psychologist (20 per cent)	2.0
Parent Trainer	10.5
Nurse	2.6
Secretary/Clerk	5.7
Employee Benefits	7.1
Total	$ 96.3
Other Costs	
Transportation	$ 16.2
Food Service	7.2
Educational Materials	2.0
Office Materials	.8
Total	$ 26.2
Grand Total	$122.5
Cost Per Child	$3,100

Infants' Attendance

Poor attendance by the younger children raises the question first of whether, with limited resources, they should be served and secondly, if they are to be served, whether a home-based program might not be better suited to their needs. Early remediation of handicaps is now considered the most effective approach to reducing later difficulties and, therefore, it might well be considered penny-wise and dollar-foolish to overlook infants even where current cost reduction is of prime consideration. Home visitations of say, twice a week, should be considered as a viable alternative to center attendance. It had originally been planned that mothers would attend the program with their young children, but that could not be implemented. Aides from the center under the direction of teacher and parent trainer could possibly train parents in the home during planning periods for teachers. In this way infants could receive some assistance until they reached entrance age. If the parents could attend parent meetings during this pre-entry period, a continuity of services could benefit the children and assure faster development than if they were left on a waiting list with no intervention.

Staffing Pattern

Selection of staff to provide good teamwork is, based on the experience of this project, a necessity for attaining optimal effects. It was not always possible to achieve this in this program. During the planning stage a director should have latitude in selecting his staff to insure that the qualifications of the staff fit the job requirements and that a harmonious working relationship is capable of being established. The nature of the task, as well as the degree of dedication required, should be fully understood by all participants.

Aids to Replication

Finally, the findings and consequent (output the parent training guide, parents competency rating from, the nutrition and cookbook pamphlet, and extension and refinement of LAP procedures) constitute an excellent basis from which to proceed with anyefurther programs for preschool handicapped children. It is hoped that these resources will be utilized.

Remaining Issues

There are, however, issues which would confront an extension of services to preschool handicapped children. The Milton Avenue HCEEP did not admit children with severe or multiple handicaps. A Child Find would turn up a number of such children whose problems would perhaps warrant a smaller pupil/teacher ratio, and services more medical or therapeutic in nature. Various private agencies now serve such children. Once public education is available, these agencies may want to shift their services to infants entirely or to some other area of need not currently being served. A study of such programs is now in order to determine how best the school system could staff and furnish its own facilities as the time draws near. Other categories of handicap, such as learning disability, which can now be diagnosed at an early age through neurological evidence, also need investigation.

Under the current philosophy of mainstreaming, it will be desirable to place handicapped preschool children in a normal environment for at least part of their time. Alternatives for accomplishing this need to be worked.

The current Child Find will need to be extended to locate handicapped preschoolers who may not yet have been diagnosed. This is particularly true for children born into low-income families. Various agencies, such as Project Rescue and public health departments, who serve low-income families, should be contacted at an early date. These are some of the areas in which decisions will be required long before actual services can begin.